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10/036,405	01/07/2002	Barry Bronson	10018741	3606

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER

THOMPSON, JAMES A

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/036,405

Applicant(s)

BRONSON, BARRY

Examiner

James A. Thompson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/7/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-7, 9-13 and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Tuhro (US Patent 5,017,963).

Regarding claim 1: Tuhro discloses an imaging system (figure 1A; figure 2; and column 3, lines 35-42 of Tuhro) comprising a platen (figure 1A(20) and column 3, lines 62-65 of Tuhro); an imager (figure 1A(10) and column 3, lines 55-62 of Tuhro), the imager being disposed in the imaging system to detect an image of an original in a scanned region of the platen (column 3, lines 65-68 and column 4, lines 10-13 of Tuhro); a cover (figure 1A(50) and column 4, lines 32-33 of Tuhro), wherein an underside of the cover includes an identifiable pattern disposed over the platen (figure 1A(52) and column 4, lines 39-45 of Tuhro); and a processor (figure 2(128) of Tuhro), wherein the processor is capable of processing a scanned image of an original from the imager (column 4, lines 55-58 of Tuhro) to generate a digital image file (column 4, lines 64-66; and column 5, lines 9-13 and lines 18-21 of Tuhro), and wherein the processor is capable of recognizing the identifiable pattern (column 5, lines 25-30 of Tuhro) and removing data from regions

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of the digital image file including the identifiable pattern (column 5, lines 30-36 of Tuhro).

Regarding claim 3: Tuhro discloses a controller (figure 4A(318) and column 3, lines 45-48 of Tuhro), wherein the controller controls scanning by the imager (column 5, line 65 to column 6, line 3 of Tuhro).

Regarding claim 4: Tuhro discloses that the processor uses a pattern matching algorithm to recognize the identifiable pattern (column 5, lines 25-30 and lines 37-39 of Tuhro).

Regarding claim 5: Tuhro discloses scanning an image of a scanned region while an original is located in the scanned region (column 4, lines 10-13 of Tuhro); generating a digital image file from the scan (column 4, lines 64-66; and column 5, lines 9-13 and lines 18-21 of Tuhro); detecting an identifiable pattern in the digital image file (figure 1A(52); column 4, lines 39-45; and column 5, lines 25-30 of Tuhro), wherein the identifiable pattern is adjacent to the original (figure 1A(52) and column 4, lines 36-45 of Tuhro); and removing image data from a portion of the digital image file including the identifiable pattern (column 5, lines 30-36 of Tuhro). Since the cover, and thus the background pattern, is larger than the platen upon which the original is placed (figure 1A(52) and column 4, lines 36-45 of Tuhro), the identifiable pattern will be adjacent to the original even if the original were to cover the platen.

Regarding claim 6: Tuhro discloses executing a pattern matching algorithm, wherein the pattern matching algorithm compares a stored version of the identifiable pattern with the digital image file (column 5, lines 25-30 and lines 37-39 of Tuhro).

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Regarding claim 7: Tuhro discloses detecting an identifiable pattern (column 5, lines 25-30 of Tuhro) located on at least one of an underside of a cover and a roller of an imaging system (figure 1A(52) and column 4, lines 39-45 of Tuhro).

Regarding claim 9: Tuhro discloses producing a copy of the original using the digital image file (column 6, lines 62-68 of Tuhro).

Regarding claim 10: Tuhro discloses an imaging system (figure 1A; figure 2; and column 3, lines 35-42 of Tuhro) comprising a platen (figure 1A(20) and column 3, lines 62-65 of Tuhro); an imager (figure 1A(10) and column 3, lines 55-62 of Tuhro) disposed in the imaging system to detect an image of an original in a scanned region of the platen (column 3, lines 65-68 and column 4, lines 10-13 of Tuhro); a cover (figure 1A(50) and column 4, lines 32-33 of Tuhro), wherein an underside of the cover is disposed over the platen (figure 1A(52) and column 4, lines 39-42 of Tuhro); and a processor (figure 2(128) of Tuhro), wherein the processor is capable of processing a digital image file (column 4, lines 64-66 and column 5, lines 9-13 of Tuhro) from a scan of an original (column 4, lines 55-58 of Tuhro), and wherein the processor is capable of storing image data from a preliminary scan of the scanned region (column 8, lines 40-46 of Tuhro) and comparing the image data from the preliminary scan with the digital image file (column 8, lines 46-52 of Tuhro) and removing extraneous images from the digital image file based on the comparison (column 5, lines 27-34 of Tuhro). Image data corresponding to the background pattern is used in the detection of the background pattern by comparison with later scanned document image data (column 8, lines 40-46 of Tuhro). The

background pattern must be initially captured and stored in order to be used by the mask (column 8, lines 40-42 of Tuhro), since the background pattern data would otherwise not exist to form the mask. The initial capturing of the background pattern stored as the mask (column 8, lines 40-42 of Tuhro) is the preliminary scan of the scanned region.

Regarding claim 11: Tuhro discloses that the processor uses a pattern matching algorithm to compare image data from the preliminary scan with the digital image file (column 5, lines 25-30 and lines 37-39 of Tuhro).

Regarding claim 12: Tuhro discloses performing one or more preliminary scans of a scanned region without an original present; and storing image data from the preliminary scan (column 8, lines 40-46 of Tuhro). The background pattern must be initially captured and stored in order to be used by the mask (column 8, lines 40-42 of Tuhro), since the background pattern data would otherwise not exist to form the mask. The initial capturing of the background pattern stored as the mask (column 8, lines 40-42 of Tuhro) is the preliminary scan of the scanned region.

Tuhro further discloses generating a digital image file from the scan of the original (column 4, lines 55-58 of Tuhro); and removing extraneous image data from the digital image file based on a comparison of the digital image file with the image data from the one or more preliminary scans (column 5, lines 27-34 of Tuhro).

Regarding claim 13: Tuhro discloses executing a pattern matching algorithm to match image data from the one or more preliminary scans with the digital image file (column 5, lines 25-30 and lines 37-39 of Tuhro).

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Regarding claim 19: Tuhro discloses scanning a scanned region while an original is located in the scanned region (column 4, lines 10-13 of Tuhro); generating a digital image file from the scan (column 4, lines 64-66; and column 5, lines 9-13 and lines 18-21 of Tuhro); detecting at least one of a background color and a background pattern of the original from the digital image file (figure 1A(52); column 4, lines 39-45; and column 5, lines 25-30 of Tuhro); and removing image data from the digital image file lying outside of a region of the digital image file having the at least one of a background color and a background pattern (column 5, lines 30-36 of Tuhro).

Regarding claim 20: Tuhro discloses detecting at least one of a background color and a background pattern that comprises greater than a predetermined amount of an area of the original (column 8, lines 40-49 of Tuhro). The detected background pattern comprises an area greater than a predetermined amount of an area of the original. Said predetermined amount corresponds to the smallest single element of the background pattern, such as the smallest number of crosses in a cross pattern (column 8, lines 42-45 of Tuhro) required to exhibit the background pattern, which includes characteristics such as the spacing, the angular arrangement, and any other of the characteristics that define the particular background pattern that is being used.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tuhro (US Patent 5,017,963) in view of Hulan (US Patent 5,987,270).

Regarding claim 2: Tuhro discloses a document feeder disposed in the system to advance originals through the system (column 3, lines 65-68 of Tuhro). In a scanner, such as the one taught by Tuhro, a document feeder which feeds documents onto the platen for scanning (column 3, lines 65-68 of Tuhro) generally has some form of roller.

Tuhro does not disclose expressly that said document feeder specifically has rollers, wherein said rollers include the identifiable pattern.

Hulan discloses a document feeder that specifically has rollers (column 6, lines 48-51 of Hulan), wherein said rollers include an identifiable pattern (column 8, lines 39-44 and column 11, lines 62-67 of Hulan).

Tuhro and Hulan are combinable because they are from the same field of endeavor, namely the elimination of background data in digital image scanning. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to also use indicia to eliminate the image of the rollers as

part of the background, as taught by Hulan. By combining Hulan with Tuhro, the rollers would thus include the identifiable pattern since the identifiable pattern is used to eliminate the background image according to the teachings of Tuhro. The motivation for doing so would have been to eliminate the image data corresponding to the document feeder (column 5, line 66 to column 6, line 4 of Hulan), which clearly has a general benefit in digital image scanning, but is also particularly beneficial when the image is smaller than standard size (column 5, lines 61-66 of Hulan). Therefore, it would have been obvious to combine Hulan with Tuhro to obtain the invention as specified in claim 2.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tuhro (US Patent 5,017,963) in view of Gilly (*Unix in a Nutshell*, by Daniel Gilly and the Staff of O'Reilly & Associates, Inc., © 1992, page 8-7).

Regarding claim 8: Tuhro discloses outputting a digital image file after removing the image data (column 5, lines 18-21 and lines 30-36 of Tuhro).

Tuhro does not disclose expressly that said outputting includes storing said digital image file.

Gilly discloses storing a digital file (page 8-7, lines 19-21 of Gilly).

Tuhro is analogous art since Tuhro is in the same field of endeavor as the present application, namely the elimination of background data in digital image scanning. Tuhro and Gilly are combinable because they are from similar problem solving areas, namely the storage and outputting of digital data files. At the time of the invention, it would have been obvious to a person of

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ordinary skill in the art, as part of the outputting of the digital image file after the removal of the image data taught by Tuhro, to specifically store said digital image file according to the teachings of Gilly. The motivation for doing so would have been to be able to maintain a copy of the edited digital image file (page 8-7, line 16 of Gilly). Therefore, it would have been obvious to combine Gilly with Tuhro to obtain the invention as specified in claim 8.

6. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuhro (US Patent 5,017,963) in view of Blitz (US Patent 5,170,267).

Regarding claim 14: Tuhro does not disclose expressly performing periodic preliminary scans.

Blitz discloses performing periodic (column 4, lines 21-26 of Blitz) preliminary scans (column 4, lines 13-17 of Blitz). A periodic diagnostic of the lamp is performed (column 4, lines 21-26 of Blitz) based on the results of a calibration scan performed by the lamp (column 4, lines 13-17 of Blitz).

Tuhro is analogous art since Tuhro is in the same field of endeavor as the present application, namely the elimination of background data in digital image scanning. Tuhro and Blitz are combinable because they are from the same field of endeavor, namely the control of digital image scanners. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to perform periodic preliminary scans, such as the diagnostic scans taught by Blitz. The motivation for doing so would have been to make sure that the scanner is still properly calibrated (column 4, lines 5-11 of Blitz), which is clearly desirable since the improper calibration of a scanner

naturally results in poor performance and image output results. Therefore, it would have been obvious to combine Blitz with Tuhro to obtain the invention as specified in claim 14.

Regarding claim 15: Tuhro does not disclose expressly generating a message indicating that maintenance or cleaning of an imaging system is required based on the preliminary scan.

Blitz discloses generating a message (figure 5("Check: Lamp Profile Sample values are between Minimum and Maximum values") of Blitz) indicating that maintenance or cleaning of an imaging system is required based on a preliminary scan (column 4, lines 55-67 of Blitz).

Tuhro is analogous art since Tuhro is in the same field of endeavor as the present application, namely the elimination of background data in digital image scanning. Tuhro and Blitz are combinable because they are from the same field of endeavor, namely the control of digital image scanners. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to perform a scanner lamp calibration and generate a message indicating that maintenance is required, if such is the result of the calibration, as taught by Blitz. The motivation for doing so would have been to make sure that the scanner is still properly calibrated (column 4, lines 5-11 of Blitz), which is clearly desirable since the improper calibration of a scanner naturally results in poor performance and image output results. Therefore, it would have been obvious to combine Blitz with Tuhro to obtain the invention as specified in claim 15.

7. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuhro (US Patent 5,017,963) in view of Christensen (US Patent 6,766,054 B1).

Regarding claim 16: Tuhro discloses scanning a scanned region while an original is located in the scanned region (column 4, lines 10-13 of Tuhro); generating a digital image file from the scan (column 4, lines 64-66; and column 5, lines 9-13 and lines 18-21 of Tuhro); detecting at least one of a background color and a background pattern of the original from the digital image file (figure 1A(52); column 4, lines 39-45; and column 5, lines 25-30 of Tuhro); and separating image data lying outside of a region of the digital image file having the at least one of a background color and a background pattern (column 5, lines 30-36 of Tuhro).

Tuhro does not disclose expressly filling in a region of the digital image file with at least one of the background color and background pattern.

Christensen discloses filling in a region of the digital image with at least one of a background color and background pattern (figure 1; figure 2(201-204); and column 4, lines 52-60 of Christensen).

Tuhro is analogous art since Tuhro is in the same field of endeavor as the present application, namely the processing of background data in digital image scanning. Tuhro and Christensen are combinable because they are from similar problem solving areas, namely separating object image data from the background and processing the resultant digital image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to take a specific background texture or background color and fill in the digital

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image region that does not contain the separated object with said background texture or background color, as taught by Christensen. The motivation for doing so would have been to be able to apply the background to a variety of different images (column 3, lines 8-10 of Christensen). Furthermore, one of ordinary skill in the art at the time of the invention would have recognized that applying a stored background texture or background color has the additional advantage of eliminating imperfections, such as dirt and debris, since the stored background texture or background color data is used rather than the scanned background image data, which can have flaws depending upon the physical condition of the scanner. Therefore, it would have been obvious to combine Christensen with Tuhro to obtain the invention as specified in claim 16.

Regarding claim 17: Tuhro discloses detecting at least one of a background color and a background pattern that comprises greater than a predetermined amount of an area of the scanned region (column 8, lines 40-49 of Tuhro). The detected background pattern comprises an area greater than a predetermined amount of an area of the scanned region. Said predetermined amount corresponds to the smallest single element of the background pattern, such as the smallest number of crosses in a cross pattern (column 8, lines 42-45 of Tuhro) required to exhibit the background pattern, which includes characteristics such as the spacing, the angular arrangement, and any other of the characteristics that define the particular background pattern that is being used.

Regarding claim 18: Tuhro discloses detecting at least one of a background color and a background pattern that comprises greater than a predetermined amount of an area of the original

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(column 8, lines 40-49 of Tuhro). The detected background pattern comprises an area greater than a predetermined amount of an area of the original. Said predetermined amount corresponds to the smallest single element of the background pattern, such as the smallest number of crosses in a cross pattern (column 8, lines 42-45 of Tuhro) required to exhibit the background pattern, which includes characteristics such as the spacing, the angular arrangement, and any other of the characteristics that define the particular background pattern that is being used.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Nagarajan et al., US Patent 6,674,899 B2, Patented 06 January 2004, Filed 18 December 2000.
- b. Hong et al., US Patent 6,819,796 B2, Patented 16 November 2004, Filed 26 December 2000.
- c. Arthur M. Blank, US Patent 5,345,313, Patented 06 September 1994, Filed 25 February 1992.
- d. William A. Cook, US Patent 6,271,935 B1, Patented 07 August 2001, Filed 23 September 1998.
- e. Bik-Chung Yeung, US Patent 6,377,703 B1, Patented 23 April 2002, Filed 10 November 1998.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Thompson whose telephone number is 571-272-7441. The examiner can normally be reached on 8:30AM-5:00PM.

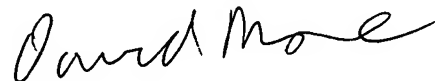
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



02 March 2006

James A. Thompson
Examiner
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DAVID MOORE
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